



PATENT
Attorney Docket No. 1232-4412US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : K. Yanagita, et al.
Serial No. : 09/931,771 Examiner: D. Graybill
Filed : August 20, 2001 Art Unit: 2827
For : WAFER PROCESSING APPARATUS AND METHOD, WAFER
CONVEY ROBOT, SEMICONDUCTOR SUBSTRATE
FABRICATION METHOD, AND SEMICONDUCTOR
FABRICATION APPARATUS

#10/B
T. Bell
7.12.02

AMENDMENT UNDER 37 CFR §1.111

Commissioner for Patents
Washington, D.C. 20231

Sir:

RECEIVED
JUL - 8 2002
TECHNOLOGY CENTER 2800

In response to the non-final Office Action dated February 22, 2002, please amend the
above-identified application as follows:

IN THE CLAIMS:

Please amend claim 43 as follows:

131
--43. (Amended) A semiconductor substrate fabrication method comprising:
forming an unporous layer on a porous layer formed on a surface of a first substrate;
adhering a first substrate side of a prospective structure and a second substrate prepared
separately to sandwich said unporous layer between the first substrate side and said second
substrate;

removing said first substrate from the adhered structure to expose said porous layer on a second substrate side thereof; and

etching said porous layer while the second substrate side on which said porous layer is exposed is completely dipped into an etching solution, and ultrasonic waves are supplied at a frequency, thereby exposing a surface of the second substrate side,

wherein the frequency of ultrasonic waves which act on the second substrate side is adjusted during the etching.--

REMARKS

The above Amendment and following remarks are responsive to the points raised in the February 22, 2002, Office Action. Upon entry of the above Amendment, claim 43 will have been amended and claims 43-48 will be pending in this application. Entry and consideration of this Amendment are respectfully requested. Attached to this Amendment is a two-page "ATTACHMENT 1" that shows the amendment made to claim 43 by bracketing the text that has been deleted and underlining the text that has been added.

RESPONSE TO REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

In the Office Action, claim 43 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly the subject matter which Applicants regard as the invention. Applicants have herein amended claim 43 to clarify that the ultrasonic wave frequency is adjusted during the etching. Thus, the §112, second paragraph rejection should be removed as overcome.

RESPONSE TO REJECTIONS UNDER 35 U.S.C. §102 & §103

Claim 44 was rejected under 35 U.S.C. §102(e) as being anticipated by Yamagata (U.S. Patent No. 6,103,598, hereafter Yamagata). Claim 43 was rejected under 35 U.S.C. §103(a) as being unpatentable over Yamagata. Claim 45 was rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Yamagata and Kaji (U.S. Patent No. 4,980,017, hereafter Kaji). Claims 46-48 were rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Yamagata, and Kaji and Matsushita (U.S. Patent No. 5,071,776, hereafter Matsushita). Applicants traverse these rejections.

The present application and Yamagata, et al. 6,103,598 were, at the time the invention of the present application was made, owned by Canon Kabushiki Kaisha. Thus, under MPEP 706.02(l)(2), Yamagata, et al. 6,103,598 does not qualify as prior art to the present application. For perfection of priority, Applicants hereby enclose a certified English translation for each of the priority documents No. 9-21796 and No. 9-30887 in the present application. As indicated in the priority documents, the filing date of the priority applications is earlier than the publication date of Japanese application No. JPA 9-92803, which is the priority foreign application of U.S. Patent No. 6,103,598. Since the 102(e) and 103(a) rejections of all pending claims 43-48 are based in some manner upon the Yamagata reference, all rejections should be withdrawn and all claims should stand without rejection.

INFORMATION DISCLOSURE STATEMENT

Applicants hereby submit an Information Disclosure Statement citing Japanese Publication No. JPA 9-92803, corresponding to U.S. Patent No. 6,103,598, JP 9-21796, and JP

9-30887. The Examiner is respectfully requested to initial and return the attached PTO-1449 form to the Applicants. The Examiner is also respectfully requested to initial and return the PTO-1449 forms filed on December 6, 2001 and February 19, 2002.

CONCLUSIONS

In view of the above Amendment and remarks, Applicants respectfully submit that all pending claims are patentable over the prior art of record, and are now in condition for allowance. Accordingly, favorable reconsideration of this application and early issuance of the Notice of Allowance are respectfully requested.

AUTHORIZATIONS

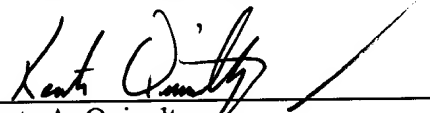
A Petition for a one-month extension of time accompanies this Amendment. The Commissioner is hereby authorized to charge any additional fees that may be required for this Amendment, or credit any overpayment to Deposit Account No. 13-4503, Order No. 1232-4412US1.

Respectfully submitted,

MORGAN & FINNEGAN, L.L.P.

Dated: 6/20/02

By:


Keats A. Quinalty
Registration No. 46,426
(202) 857-7887 Telephone
(202) 857-7929 Facsimile

CORRESPONDENCE ADDRESS:
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, New York 10154-0053

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : K. Yanagita

Serial No. : 09/931,771

Filed : August 20, 2001

For : WAFER PROCESSING APPARATUS AND METHOD, WAFER
CONVEY ROBOT, SEMICONDUCTOR SUBSTRATE FABRICATION
METHOD, AND SEMICONDUCTOR FABRICATION APPARATUS



Examiner: D. Graybill

Art Unit: 2827

ATTACHMENT 1

Amendments made to claim 43 herein are indicated in this attachment by bracketing the text that has been deleted and underlining the text that has been added.

IN THE CLAIMS:

Please note the following amendments to claim 43:

--43. (Amended) A semiconductor substrate fabrication method comprising:

[the step of] forming an unporous layer on a porous layer formed on a surface of a first substrate;

[the step of] adhering a first substrate side of a prospective structure and a second substrate prepared separately to sandwich said unporous layer between the first substrate side and said second substrate;

[the removal step of] removing said first substrate from the adhered structure to expose said porous layer on a second substrate side thereof; and

[the etching step of] etching said porous layer while the second substrate side on which said porous layer is exposed is completely dipped into an etching solution, and ultrasonic waves are supplied at a frequency, thereby exposing a surface of the second substrate side,

wherein the [etching step changing a strength] frequency of ultrasonic waves which act on the second substrate side is adjusted during the etching.--